

**RYERSON UNIVERSITY**

**AGENDA**

**ACADEMIC COUNCIL MEETING**

**Tuesday, February 3, 2004**

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5:30 p.m. A light dinner will be served in The Commons, Jorgenson Hall, Room JOR-250.

6:00 p.m. Meeting in The Commons.

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- |             |                                                                                                                                                                                                         |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pages 1-4   | <b>1. President's Report</b>                                                                                                                                                                            |
|             | 1.1 Ryerson Achievement Report                                                                                                                                                                          |
| Page 5      | <b>2. Report of the Secretary of Academic Council (#W2004-2)</b>                                                                                                                                        |
|             | <b>3. The Good of the University</b>                                                                                                                                                                    |
| Pages 6-13  | <b>4. Minutes:</b>                                                                                                                                                                                      |
|             | 4.1 Minutes of the January 13, 2004 Meeting                                                                                                                                                             |
|             | <b>5. Business arising out of the Minutes</b>                                                                                                                                                           |
|             | 5.1 Presidential Search Committee<br>Dr. Michael Guerriere, Chair of the Board of Governors                                                                                                             |
|             | <b>6. Correspondence</b>                                                                                                                                                                                |
|             | <b>7. Reports of Actions and Recommendations of Departmental and Divisional Councils</b>                                                                                                                |
| Pages 14-15 | 7.1 From Arts:<br>- Course changes in Psychology<br>- Course changes in Sociology                                                                                                                       |
| Pages 16-17 | 7.2 From Community Services:<br>- Course changes in Early Childhood Education<br>- School of Nursing – Academic Variation to the Primary Health Care Nurse Practitioner degree and certificate programs |
| Pages 18-22 | 7.3 From School of Graduate Studies:<br>- Proposal for an MA program in Public Policy and Administration                                                                                                |

**Motion:** *That Academic Council approve the submission of the proposal for a **Master of Arts in Public Policy and***

*Administration to the Ontario Council for Graduate Studies for standard appraisal.*

- (For information only) - Joint graduate program in **Communication and Culture** (offered at York University)

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**8. Reports of Committees**

8.1 Report #W2004-1 of the Nominating Committee

**Motion:** *That Academic Council approve the following slate of candidates to represent Academic Council on the **Presidential Search Committee 2004-05** (see report for slate of candidates).*

Pages 24-31

8.2 Report #W2004-2 of Academic Standards Committee:

**Motion #1:** *That Academic Council approve the designation of **Bachelor of Science (Computer Science)** for students graduating from the Computer Science program.*

**Motion #2:** *That Academic Council approve the proposed **curriculum restructuring in Computer Science.***

**9. New Business**

**10. Adjournment**

# **RYERSON UNIVERSITY ACHIEVEMENT REPORT**

For the February 2004 meeting of Academic Council

Third-year Fashion student **Ann Krupski** won the ROM/Ryerson Art Deco fashion competition for her design of a flapper-style dress.

Information Technology Management student **Michael Lee** was one of 10 students from across the country to receive a Canada's Outstanding CEO of the Year Award scholarship, valued at \$5,000.

## ***Events***

The 17<sup>th</sup> annual Ryerson Business Forum, organized entirely by students, was held Jan. 21 at the Sheraton Centre and featured guest speakers Len Brooks of the Clarkson Centre for Ethics and Board Effectiveness; Robert Schad, President and CEO of Husky Injection Molding; Mike McKean, President, Wrigley Canada; and Nancy Croitoru, President and CEO of the Food and Consumer Products Association of Canada. Theme of the Forum was business ethics.

The School of Fashion presented *Beyond Style*, a fundraising event Jan. 15 at the Design Exchange as part of the *Diana, A Celebration* exhibit. *Beyond Style*, an exhibition and fashion show of designs by Ryerson's alumni and students, featured works by David Dixon, Joeffer Caoc, and Lida Baday, among many others.

President **Claude Lajeunesse** hosted a reception Dec. 15 to honour Ray Chang for his gift of \$5 million to Continuing Education. The President also delivered a speech on leadership to a meeting of managers and executives from Kodak Canada Nov. 18. He spoke at the celebration of the 40<sup>th</sup> anniversary of O'Keefe House and the tribute dinner for Ted Brock Nov. 15. The President delivered welcoming remarks at the McGraw-Hill Ryerson Teaching, Learning and Technology Conference - 2003 Series Nov. 24 at Ryerson.

Faculty, staff and students from across the university attended the President's annual holiday celebration Dec. 10.

The 25 Year Club held its annual induction ceremony Nov. 19.

## ***Media Appearances***

**Tim Sly** of Occupational and Public Health appeared on CBC TV's *The National* Jan. 7 and CBC Newsworld Jan. 8 as an expert commentator in a story about the mad cow infection in the U.S. Dr. Sly was also quoted by the Canadian Press in a story Jan. 3 that appeared in newspapers across the country on how easily mad cow can be transmitted. And he appeared on Life Television's *Diagnosis MD* in December, discussing the diagnosis and treatment of a number of diseases including malaria, tuberculosis, typhoid fever, as well as parasite contamination in the Third World.

**Jennifer Brayton** of Sociology commented in the Jan. 2 *Toronto Star* on the history and sociology of the new year as a time of personal renewal.

In its September edition, *Canadian Architect* carried a lengthy story about the charette conducted by the Department of Architectural Science as part of the Designing for Shade conference held in June.

Ryerson's December 6<sup>th</sup> memorial service was covered by 680 News, CP24, and City TV.

**Wendy Cukier** of Justice Studies, and President of the Coalition for Gun Control, was quoted in Carol Goar's column in the *Toronto Star* Jan. 7 about solutions to a recent rash of shootings in Toronto.

RyeSAC president **Ken Marciniac** appeared on CBC TV news and CBC Radio's *Metro Morning* to discuss the use of turnitin.com. **Diane Schulman**, secretary of Academic Council, was quoted in a *National Post* story Dec. 10 on the use of turnitin.com

**Marilyn Lee's** study of the source of intestinal illnesses continues to attract media coverage, with recent stories in the *Regina Leader-Post*, *St. John's Telegram*, and other newspapers across the country. The study by Prof. Lee of Occupational and Public Health was published in the international *Journal of Food Protection* and publicized by Ryerson's Office of Public Affairs.

Work by **Ken Jones** and **Tony Lea** of the Centre for the Study of Commercial Activity was profiled in Kate Taylor's column in the *Globe and Mail*. Drs. Jones and Lea were commissioned by the City of Vancouver and a local arts group to measure the economic impact of the arts on a community. Dr. Jones was also quoted in a *Globe and Mail* story Dec. 20 on the role of shopping malls in North American culture.

**Tony Hernandez** of the Centre for the Study of Commercial Activity was interviewed on *Global National* news Dec. 2 about the impact that big box stores are having on traditional malls.

The *Hamilton Spectator* profiled **Yvonne Bobb-Smith** in a story Nov. 15 about the professor's new book, *I Know Who I Am: A Caribbean Woman's Identity in Canada*.

**Dale Shipley** of Early Childhood Education commented in the September issue of *Today's Parent* on what parents can do for their children to minimize the trauma of the first day at school.

**Derrick Rousseau** of Nutrition commented in a story Nov. 26 in the *Toronto Star* about the role of fats in health and nutrition.

**John Miller** of Journalism appeared on *Global National* Nov. 17 to discuss the impact of Conrad Black's decision to step down as CEO of Hollinger. He was also quoted in a Canadian Press story on the same subject.

The *Globe and Mail* quoted **Vince Carlin** of Journalism in a Nov. 10 story about a suggestion that journalist Stevie Cameron was a confidential informant for the RCMP. He appeared on ROB-TV's *Squeezeplay* to discuss the rise and fall of Conrad Black's media empire. He appeared on TVO's *More to Life* program Nov. 19 to discuss journalism ethics. And he was quoted in the Dec. 18 *Globe and Mail* about the CBC's efforts at innovative programming.

**Art Pierce** of Business appeared on Toronto One's *Toronto Tonight* Nov. 20 to talk about the reasons behind workplace stress. He was also quoted in a *Globe and Mail* story Dec. 15 about whether extended retail hours contribute to higher sales volume.

**Tammy Landau** of Justice Studies was quoted in the *Toronto Star* Nov. 7 about Chief Julian Fantino's call for an inquiry into the judicial system. She appeared on CBC Radio's *Ontario Today* Nov. 11 to discuss how to make communities safer. She commented on the use of cameras in police cruisers Dec. 10 on CBC Radio's *Ontario Today* and Dec. 11 in the *Toronto Star*.

**Clive Vanderburgh** of Radio and Television Arts commented in a story carried by Canwest News Service across the country Nov. 19 about the popularity of *The Simpsons* television show with young children.

**David Amborski** of Urban and Regional Planning appeared on Ukrainian television and in that country's newspapers during a trip there to assist in training local government officials on self-government and administration.

**Lamya Amleh** from Civil Engineering and **Vera Straka** from Architectural Science were interviewed by the CTV national news for their expert opinion regarding the collapse of a school during the demolition of the Uptown Theatre. The interview was aired on Dec. 8.

**Laurie Clune** of Nursing, who is president of the Durham Northumberland chapter of the Registered Nurses Association of Ontario, was quoted in newspapers in Durham and Northumberland about the region's health care issues, during and after the provincial election. Prof. Clune was active during the election seeking candidates' views on health care issues.

The conclusion of the provincial and municipal campaigns resulted in election-day and post-election comments in the media by Ryerson faculty. Here's a summary:

**Myer Siemiatycki, Politics:**

**Nov. 3 680 News, power of mayor's chair; CBC Radio *Toronto at Ten*, speculating on outcome of election; CBC Radio *Ontario Today*, why Hall lost her lead;**

**Nov. 5 Canadian Press, the position of cities in the new provincial government.**

**Nov. 6 CBC TV *Canada Now*, mayoral debate; Nov. 6 CTV *National News*, mayoral race;**

**Nov 7 CBC TV *The National*, upcoming municipal election; CTV national news (morning), municipal election;**

**Nov. 8 Canadian Press and Nov. 9 *Toronto Star*, predictions on who'll win mayor's race; Nov 10,**

***Toronto Star*, ethnicity and voting patterns; CBC Radio *World Report*, election; Nov 11, *National Post*, collapse of Hall campaign; *Globe and Mail*, why Miller beat Tory; *Metro Morning*, how city council has changed; CBC TV's *Canada Now*;**

**Nov. 12 *Toronto Star*, future of John Tory;**

**Nov. 13 *National Post*, voter turnout;**

**Dec. 12 *Here and Now*; and CBC TV's *Canada Now* on Paul Martin and the role of cities;**

**Dec. 15 *Metro Morning*, new deal for the city.**

**Neil Thomlinson, Politics:**

**Nov. 10, Global News, on promises that will be kept by the winning candidates;**

**Nov. 11 *National Post*, the political balance of city council after the election; Global TV *News Morning*, issues facing the new mayor; Canadian Press, public interest in the election; CBC TV *Canada Now*, the bridge to island airport;**

**Nov. 12, *National Post*, low voter turnout;**

**Mitchell Kosny Urban and Regional Planning:**

**Nov. 10, RDI-TV national, the Toronto municipal election; Canadian Press and Omni television news;**

**Nov. 11 RDI-TV national, CBLFT *Ce Soir*, local election.**

***Prepared by the Office of Public Affairs***

**Report of the Secretary of Academic Council (#W2004-2)**  
**February 3, 2004**

1. Dallas Luther, School of Radio and Television Arts, has been appointed to the vacant student position for the Faculty of Communication & Design.
2. The revisions to the *Student Code of Academic Conduct* and the *Grading, Promotions and Academic Standing Policy* were communicated to day students by email, CE students through handouts distributed by CESAR, and to faculty through Academic Update.
3. Reminder that nominations for Academic Council close on Wednesday, February 4, and that all student nomination forms are to be forwarded to the Secretary by Friday, February 6.

**MINUTES OF ACADEMIC COUNCIL MEETING**  
**Tuesday, January 13, 2004**

**Members Present:**

**Ex-Officio:**

K. Alnwick  
E. Aspevig  
S. Boctor  
C. Cassidy  
M. Dewson  
L. Grayson  
A. Kahan  
C. Lajeunesse  
C. Matthews  
J. Sandys  
P. Stenton  
S. Williams  
M. Yeates

**Faculty:**

M. Barber  
D. Checkland  
S. Cody  
J. Cook  
J. Dianda  
M. Dionne  
M. Dowler  
D. Elder  
C. Evans  
G. Inwood  
N. Lister  
L. Lum  
D. Martin  
D. Mason  
M. Mazerolle  
R. Mendelson  
J. Monro  
B. Murray  
S. O'Neill  
A. Pevec  
R. Ravindran  
F. Salustri  
P. Schneiderman  
D. Shipley  
D. Snyder  
E. Trott

**Students:**

A. Cherrie  
A. Deslauriers  
N. Felorzabihi  
Z. Khan  
B. Lewis  
C. Livett  
K. Marciniac  
S. Marshall  
S. Mirowski  
R. Nazareth  
R. Rodrigues  
E. Sullivan

**Alumni:**

J. Gryn

**Regrets:**

M. Booth  
V. Campbell  
T. Knowlton  
A. Lohi  
V. O'Brien  
K. Penny  
K. Raahemifar  
K. Tucker Scott

**Absent:**

Moyeed Uddin Ahmed  
G. Diamantakos  
P. George  
I. Levine  
D. McKessock

- 1. President's Report** – The President welcomed members back to Academic Council for 2004. He reported that he was meeting with the government caucus during the last meeting of Academic Council. He raised the issues of ensuring Ryerson's \$12.5 M SuperBuild funding and the continuance of the quality assurance funds. He was given strong reassurances on the SuperBuild funds. He also discussed the continuation of the Ontario Students Opportunity Trust Fund which provides for student bursaries. He announced that a cheque for \$1M had been received from a donor, which was based on matching this fund. He also discussed the effect of a tuition freeze and the need for compensation to the university. He believes there was some understanding of the needs of the university.

The President announced that he would be attending a pre-budget meeting with Federal Finance Minister Ralph Goodale, and that he would be commenting on the need for increased research support. Ryerson is disadvantaged by some of the government distribution methods. He would also like the federal government to review its student assistance program.

As there has been much discussion about essay writing services, the President was pleased to report that the *Eyeopener* has agreed to discontinue advertisement of these services.

The President announced that there is now a contract in place for the acquisition of a student information system (SIS). K. Alnwick and K. Scullion were commended for their work on this committee. E. Aspevig commented on the important role of the SIS in the administration of the University and commended the other members of the SIS steering committee: I. Marlatt, I. Levine, J. Winton, J. Corallo, M. Booth, M. Creery, P. Stenton, R. Lemieux; the Team Leaders: R. Oolup, B. Soutar, M. Riqueza, C. Posa, D. Ossher, and K. Scullion; and the Negotiating Team D. Ossher, P. Gee, L. Lemieux, J. Harness, W. Pitman, K. Scullion.

The Ryerson Business Forum, which is an exceptional student-run initiative, will be held on January 21, 2004. The forum brings together community Business leaders.

There was an Infoline message sent on succession planning. There will not be a search for a Provost and Vice President Academic at this time, as the President and Provost would be leaving at the same time. An acting Provost will be appointed for up to two years.

- 2. Report of the Secretary of Academic Council** – D. Schulman reported that G. Roberts-Fiaiti, who was on sabbatical, would be replaced on Council by R. Mendelson and on the Nominating Committee by D. Shipley. She also presented the guidelines for Academic Council Elections, announcing that student elections would be held on-line, and asking that anyone who was not continuing for a second year of his or her term inform her and their Dean.
- 3. Good of the University** – In the absence of Vice Chair, K. Penny, D. Martin presided. K. Marciniac distributed three documents. Two articles concerned turnitin.com, and he reported that he had met with Drs. Dewson, Aspevig and Schulman regarding the service. The third article concerned full student funding and a meeting with the Minister of Training, Colleges and Universities on the matter.

R. Rodrigues announced the Equity Conference on March 19-20 and that more information was available from CESAR Office.



D. Checkland asked if the interim Provost could be a candidate for the position. The President responded that there is no limitation.

C. Matthews reported that the Library will be extending its hours to 8pm on Fridays as soon as staff are available.

#### 4. Minutes

Motion to approve the minutes of the December 2, 2003 meeting.

R. Ravindran, seconded by M. Yeates

Correction to minutes: Page 12 should read: "NCFS02 instead of NCFS03"

**Motion approved.**

#### 5. Business Arising out of the Minutes

5.1 New members of Academic Council were announced

5.2 It was announced that the "Summary of Discussion" form had been amended as requested.

5.3 Clarification of course change forms presented at the December 2, 2003 meeting were presented in the agenda.

5.4 Amendment to the Student Code of Academic Conduct.

**Motion: That Academic Council amend the Student Code of Academic Conduct by the addition of the following clause to section A1.a: Plagiarism: iv. Presenting another's substantial or compositional changes to an assignment as your own.**

Moved by Fil Salustri, seconded by E. Sullivan.

D. Schulman reported that the ad hoc committee had met for two hours, had a lively discussion of the matter and was presenting the proposed wording. There was discussion of the following matters:

- It is important that the writing skills of graduating students have been evaluated based on their own ability. The contribution of others to students' work should be limited.
- The difference between the word "substantial" and "substantive" in the context of the proposal was discussed.
- The need for the word "or" in the proposal was discussed.
- It was asserted that many great literary works were the result of substantial editing by others.

**Motion to amend the original motion:** That the wording be changed to "substantive compositional changes".

M. Barber moved, J. Gryn seconded.

Motion to amend defeated.

**Motion to amend the original motion:** That the word “or” be removed from the statements so that it reads: “Substantial compositional changes”

J. Sandys moved, M. Dowler seconded

23 for 19 against

Motion to amend approved.

**Motion to amend the original motion:** That the wording be amended to “presenting another’s content or editorial changes to an assignment as your own”.

S. Cody moved, K. Alnwick seconded.

A friendly amendment was accepted to amend the wording to “presenting another’s *substantial* content or editorial changes to an assignment as your own”.

There was discussion of the motion to amend.

Motion to amend defeated.

Council then returned to the main motion as amended.

**Motion: That Academic Council amend the Student Code of Academic Conduct by the addition of the following clause to section A1.a: Plagiarism: iv. Presenting another’s substantial compositional changes to an assignment as your own.**

**Motion approved.**

There was further discussion of timing for the implementation of the new policy. It was suggested that the policy needed to be communicated prior to implementation. D. Schulman responded that an email would be sent to students, and an Academic Update message sent. It would also be communicated to CE students through *Nightviews* and/or other means.

**Motion:** That the policy be implemented in 20 days.

Moved by E. Sullivan, seconded by M. Dowler

**Motion approved.**

5.5 Revision to Suspension policy – the changes from the previously submitted motion were outlined by K. Alnwick. The new items are italicized in the proposal. One concerned the allowance of transfer to another program and the other concerned the specification of courses to be taken while under suspension.

**Motion: That Academic Council approve the amendment of section 2.4.4 of the Policy on Grading, Promotion and Academic Standing as outlined in the report.**

K. Alnwick moved, S. Williams seconded.

**Motion: To amend the third line on page 21 to read: However, students who *have the permission of their program representative to complete these courses during their period of suspension...***

Moved by J. Dianda, seconded by C. Cassidy.

A friendly amendment to add “advance” permission was accepted.

**Amended wording would read: However, students who have the advance permission of their program representative to complete these courses during their period of suspension...**

**Motion to amend was approved.**

**A friendly amendment to amend line 4 of page 21 to read “may have two one-semester courses *or their equivalent...*” was accepted.**

J. Monro moved that approval of the suspending program be required for a student to transfer to another program. There was no seconder.

**Motion to approve the changes to the policy on suspension as amended.**

**Motion approved.**

## **6. Correspondence**

The letter from Dr. Michael Guerriere, Chair of the Board of Governors was included in the agenda. E. Valin, Secretary of the Board was present to respond to questions. He clarified the following points:

- The letter from the Chair states that: “For purposes of continuity, I would request that these nominees be members who would retain Council status through 2004-05.”
- Although student terms are for only one year, a student may run for re-election for a second term.
- It was his understanding that the Board would nominate its members after Academic Council decided on its nominees.

The following statements were made:

- K. Marciniac asked that there be more than one student on the search committee.
- S. Cody asked that Academic Council nominate at least one teaching faculty member.
- D. Checkland asked if Dr. Guerriere could speak to Academic Council prior to the selection of the slate of Academic Council members of the search committee.

## **7. Reports of Actions and Recommendations of Departmental and Divisional Councils – E.**

Aspevig reported that the items presented were brought to Council for its information and invited questions.

7.1 From Arts:

- Course additions in Arts & Contemporary Studies
- Course changes in Psychology
- Course deletion in Public Administration and Governance
- Course changes in Sociology (*form distributed at the meeting, but withdrawn*)

7.2 From Business Management:

- Course changes in Information Technology Management

7.3 From Communication and Design:

- Course addition in Fashion (*forms distributed at the meeting*)
- Course changes in Theatre (*forms distributed at the meeting*)

7.4 From Community Services:

- Course change in Nutrition
- Course change in Urban and Regional Planning

7.5 From Engineering & Applied Science:

- Memorandum of Understanding (re Applied Chemistry & Biology degree completion agreement with Centennial College)
- Name change – “Applied Computer Science” to “Computer Science” (This change applies to the program name and not the degree name.)
- Course changes in Electrical and Computer Engineering
- Course changes in MPCS and Applied Chemistry & Biology
- Curriculum Prerequisite Structure in the Engineering Program (It was explained that the changes presented would normally have come on individual Course Change forms. The changes recognize that math is a prerequisite for success in engineering courses. The changes are being made to a prerequisite structure comparable to that in other Engineering programs.)

Academic policy on Language Competency for Engineering students

**Motion: That Academic Council approve the Language Competency Policy for all undergraduate Engineering programs as outlined in the attached report.**

Moved by S. Boctor, seconded by C. Cassidy.

Dean Boctor outlined the four elements of the policy. C. Cassidy stated that this is an exciting collaboration which can be used as a model for other programs. There are separate courses for ESL students and native English speakers.

D. Checkland asked about the cost of the 4-6 week intensive ESL course. D. Glynn responded that the cost of the academic skills program offered through the Faculty of Arts is \$949 for 145 hours.

S. Cody enquired, as she had at the last meeting, how the courses create the foundation for the competencies stated in the proposal and why engineering students only take one course in professional communication, given their roles upon graduation. C. Cassidy responded that the selection of courses is preliminary. The courses are ones where there are smaller assignments and where students get a series of feedback. Students will be in writing intensive sections. Since the initiative is coming from Liberal Studies, the courses offered are in that area.

It was clarified that students will be able to take the test 4 times: at orientation in their first year, in May of their first year, and at orientation and in May of the following year. It was also clarified that once students take what is required, they can only be strongly advised to take further courses. These courses could, however, be put in probationary contracts when they are needed. There is also a commitment that writing will be part of engineering courses.

All programs with “engineering” in their title are affected. It was also clarified that “other proficiency tests” referred to tests in English. The policy does not apply to graduate programs as there is already an English proficiency requirement in place in Graduate Studies.

**Motion approved.**

## **8. Report of Committees**

**8.1 Report of the SRC Committee** J. Sandys presented. The report informs Academic Council about the nature of the SRC Committee, some of the issues the committee has dealt with and the relationship between SRC representatives and the committee.

### **8.2 Report of the Academic Standards Committee**

Motions made by E. Aspevig. M. Zeytinoglu reported.

**Motion #1: That Academic Council approve the periodic Program Review as conducted by the School of Social Work.**

S. Williams seconded

It was noted that on page 57, the second line “self-reflexivity” should be replaced by “self-reflectivity”.

The report was outlined as presented.

**Motion approved.**

**Motion #2: That Academic Council approve the periodic program review as conducted by the Department of Geography.**

Seconded by C. Cassidy

The report was outlined as presented.

**Motion approved.**

**Motion #3: That Academic Council approve the proposed curriculum restructuring in Geographic Analysis.**

Seconded by C. Cassidy

The report was outlined as presented.

Discussion: M. Barber asked about a change from 4 to 3 course hours. It was responded that this makes the structure more uniform and allows for more student choice.

**Motion approved.**

**Motion #4: That Academic Council approve the proposed change to the admission requirements to the Post RN degree program.**

Seconded by S. Williams

The report was outlined as presented.

Discussion: R. Mendelson asked if this restricted international candidates from entering the field. At the present time, nurses entering Canada with a degree considered equivalent can write the exam. Other students must enter a bridging program. The requirement is not unique to Ryerson.

**Motion approved.**

**Motion #5: That Academic Council approve the certificate program in Advanced Safety Management.**

Seconded by D. Martin

The report was outlined as presented.

**Motion approved.**

**Motion #6: That Academic Council approve the certificate program in Fundraising Management.**

Seconded by A. Kahan

The report was outlined as presented.

**Motion approved.**

**9. New Business** – There was no new business.

**10. Adjournment** - The meeting was adjourned at 8:30 p.m.

Respectfully submitted,

Diane R. Schulman, PhD  
Secretary of Academic Council

Initiating School/Department: PSYCHOLOGY Date of Submission: January 20, 2003

Is this the Teaching School/Department, Program School/Department, or both? TEACHING

Please add extra rows as needed if multiple courses are involved.

\_\_\_\_\_  
Provost and Vice-President, Academic

\_\_\_\_\_  
Date

Course Code/ Number	Course Title	Nature of Change (Use letters to indicate where provided)				Program(s)/ School(s)/ Department(s)/ Continuing Ed. affected and informed of change	Purpose of Change	Minors Affected	Implementation Date
		Hours and Mode	New Course (Y/N)	Re-position(R) Addition (A) Deletion(D)	Required(R) Elective(E) Professional-Elective(PE) Professionally-Related Elective (PRE)				
PSY 011	Introductory Psychology	Lect. 3 hr		D	R	Social Work	Replaced by PSY 102/202	Psychology	F2004
PSY 024	Social Psychology	Lect. 3 hr		D	PRE	Social Work	Replaced by PSY 124	Psychology	F2004
PSY 202	The Science of Behavior: Applications	Lect. 3 hr	Y	A	R	Social Work	Replaces second half of PSY 011	Psychology	F2004
PSY 102	The Science of Behavior: Basic Principles	Lect. 3 hr	N	A	R	Social Work	Replaces first half of PSY 011	Psychology	F2004
PSY 124	Social Psychology	Lect. 3 hr	Y	A	PRE	Social Work	Replaces PSY 024	Psychology	F2004

(Revised July 23/03)

Initiating School/Department: SOCIOLOGY

Date of Submission: January 13,

2004

Is this the Teaching School/Department, Program School/Department, or both? BOTH

Please add extra rows as needed if multiple courses are involved.

(Signed original on file) \_\_\_\_\_

Provost and Vice-President, Academic

\_\_\_\_\_ Date

Course Code/ Number	Course Title	Nature of Change (Use letters to indicate where provided)				Program(s)/ School(s)/ Department(s)/ Continuing Ed. affected and informed of change	Purpose of Change	Minors Affected	Implementation Date
		Hours and Mode	New Course (Y/N)	Re-position(R) Addition (A) Deletion(D)	Required(R) Elective(E) Professional-Elective(PE) Professionally-Related Elective (PRE)				
SOC880	Information Technology and Society	3	Y	A	E	Upper level Social Studies (Table B)	To replace COCR941	None	Fall 2004



COCR941	Information, Technology, and Society	3	Y	D	E	Upper level Social Studies (Table B)	For replacement	None	Fall 2004
COCR880	Information Technology and Society	3	Y	A	E	Upper level Social Studies (Table B)	To replace COCR941	None	Fall 2004

(Revised July 23/03)

**Initiating School/Department:** Early Childhood Education

**Date of Submission:** Jan. 15, 2004

Is this the Teaching School/Department, Program School/Department, or both? Both

Please add extra rows as needed if multiple courses are involved.

\_\_\_\_\_  
Provost and Vice-President, Academic

\_\_\_\_\_  
Date

<i>Course Code/ Number</i>	<i>Course Title</i>	<i>Nature of Change (Use letters to indicate where provided)</i>	<i>Program(s)/ School(s)/ Department(s)/ Continuing Ed. affected and informed of change</i>	<i>Purpose of Change</i>	<i>Minors Affected</i>	<i>Implementation Date</i>
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		<i>Hours and Mode</i>	<i>New Course (Y/N)</i>	<i>Re-position(R) Addition (A) Deletion(D)</i>	<i>Required(R) Elective(E)</i>  <i>Professional-Elective(PE)</i>  <i>Professionally-Related Elective (PRE)</i>				
CLD212	Curriculum II: Program Planning	Lec. 3	N	R: From W to F Term	R	ECE	Preparation for Field Education	None	Fall 2004
CLD251	Professional Practice I	Lab. 3	N	R: from F to W term	R	ECE	Preparation for Field Education	None	Fall 2004

(Revised July 23/03)

January 20, 2004

Dr. Diane Schulman  
Secretary to Academic Council

The following is the agreed upon wording for the calendar change related to the academic variation to the Primary Health Care Nurse Practitioner programs:

**All students in the Primary Health Care Nurse Practitioner degree and certificate programs must achieve a grade of 70% (B-) or higher in each of the core courses (NUR808, NUR822, NUR809, NUR909, NUR812, NUR912, and NCL090) to pass these courses. A grade of less than 70% (B-) and/or an unsatisfactory clinical grade constitutes failure of the course. Failure of one core course will result in probationary status for the student. Failure of two core courses or one core course twice requires mandatory withdrawal from the programme. If a student has a mandatory withdrawal, reapplication cannot be processed at any of the Ontario consortium nurse practitioner programmes for one year.**

This is not a new policy; merely a clarification of wording and an update of course codes that have changed. The current incorrect wording is on page 70 of the Full-Time Undergraduate Calendar, including old course codes. We do not need the final paragraph on page 70 regarding additional grade/promotion policies.

If you require further information, please do not hesitate to contact me.

Your attention to this matter is greatly appreciated.

Dr. Carol Eifert  
Interim Director  
Ryerson School of Nursing

**Ryerson University**  
**School of Graduate Studies**

**REPORT TO ACADEMIC COUNCIL FOR FEBRUARY 3, 2004**

1. The School of Graduate Studies has reviewed the proposal for an **MA program in Public Policy and Administration** listed below, and submits it to Academic Council for its approval for it to be sent to the Ontario Council on Graduate Studies for external review ('standard appraisal'). Vol. I of the brief ('The Program') is available for review in the office of the Secretary of Academic Council, and Volumes I & II ('The Program', and 'Curricula Vitae') are available for review in the office of the Dean of the School of Graduate Studies (EPH 439).

Council members may recall the new program review procedures within SGS:

- Step 1. A letter of Intent (LoI, May 26, 2003) – sent to all Faculty Deans by the Dean of SGS, for dissemination within faculties, and discussion, by Chairs, Directors, and so forth. Responses and comments (if any) to be transmitted, within one month of receipt of the LoI, to the Provost.
- Step 2. During the one month period, the LoI is reviewed by the Programs and Planning (P&P) Cttee. of SGS, and discussed with the program sponsors.
- Step 3. The Provost decides, on the basis of the responses (if any) to the LoI, and the views of the P&P Cttee. whether the program sponsors should proceed to the preparation of a program proposal in OCGS format.
- Step 4. Sponsors prepare OCGS brief.
- Step 5. OCGS brief is sent to an 'Internal/External' consultant for review (Dr. Barbara Carroll, Professor of Political Studies, McMaster University).
- Step 6. I/E review sent to program sponsors for consideration, and re-drafting or editing of brief (if necessary).
- Step 7. I/E review and sponsor response discussed by SGS Dean and Provost.
- Step 8. I/E review and sponsor response discussed by P&P Cttee with sponsors present.
- Step 9. Discussion of new program proposal by Council of SGS (January 9, 2004).
- Step 10. Presentation at Academic Council.

*Note: Once a program is approved by OCGS, it is presented to the Board of Governors for final approval. The Provost has final authority to determine whether a program may proceed.*

**Motion**

To approve the submission of the proposal for a *Master of Arts in Public Policy and Administration* to the Ontario Council for Graduate Studies for standard appraisal.

*Note: Once a program is approved by OCGS, it is presented to the Board of Governors for final approval. The Provost has final authority to determine whether a program may proceed.*

**RYERSON UNIVERSITY**  
**Department of Politics and School of Public Administration**  
**Master of Arts in Public Policy & Administration (MPPA)**  
**SUMMARY**  
January 19, 2004

In the current global context, professional public service is viewed as an important contributing factor to the standard of living in Canada and is a key component of democratic governance. The public service in Canada has grown to include a large portion of the workforce whose primary focus is developing public policy knowledge and delivering public goods and services. In the GTA alone, the size of the core public service includes 15,000 federal public service employees, 65,000 Ontario public servants and 33,600 employees of the City of Toronto plus surrounding regions. In addition, a significant number of Canadians work in the broader-public service in sectors such as education, health and social service delivery. With the changing boundaries of the public service in the past two decades, there are also a large number of non-profit and private sector organizations involved in public administration. In addition, the aging demographic of the public service and recent global events indicate a strong societal need for graduate studies in public policy and administration for current and future public service professionals.

The proposed Master of Arts in Public Policy and Administration is designed to provide a high quality, professionally-relevant educational program that recognizes the unique character of the public service and its role in democratic governance to full-time students considering careers in the public and para-public sectors and to part-time learners already in the public service interested in furthering their education. The proposed program builds on existing faculty expertise and the undergraduate B.A. in Public Administration and Governance offered by the Department of Politics and School of Public Administration. It also builds on the broader mandate of Ryerson, a university known for its “professionally related programs of study” and its commitment to providing “educational experience based on the creative integration of theoretical and applied learning”.

The program meets all of the conditions outlined in Ryerson’s academic plan for graduate studies. The program: has a particular focus on societal need, career/professional relevance; is designed to provide students with innovative, applied curriculum and research opportunities; builds on established strengths of the university and contributes to the university’s strategic goals; has high potential to contribute to both scholarly research and undergraduate program strength (including increasing the number and quality of research proposals; generating new opportunities for graduate and undergraduate students to be involved with scholarly research projects; increasing the number of research partnerships within Ryerson and with external organizations; and increasing the strength of future research funding applications); will not place undue financial burdens on the University; will be a major factor in attracting and retaining faculty; and will allow the School of Public Administration to build research capacity through the program requirements and by supporting graduate students financially as Research Assistants.

The program curriculum is designed for both full-time and part-time graduate studies. It is anticipated that the first cohort of graduate students would begin the program in September 2005 (15 full-time students and 15 part-time students). The flexibility of the program is designed to allow students to customize their studies depending on their own educational goals, personal circumstances and work contexts.

To successfully complete the MA degree in Public Policy and Administration students must complete 10 courses or equivalent: four required courses, and six elective courses *or equivalent*. There are two options: a course option, and a research option. The research option provides a six course plus thesis (= 4 courses) route, or an eight course plus major research paper/project (=

2courses) route. Depending on the path of study, the program is designed to be completed (ie. is doable) by full-time students in 12 months, and part-time students in 20 months. The program must be completed within five years of enrolment. Applicants must meet normal requirements for admission to the Ryerson School of Graduate Studies.

**Course Curriculum:**

REQUIRED COURSES	ELECTIVE COURSES *
Public Administration and Governance	Theories of Bureaucracy & Organisation
Public Policy: Approaches and Analysis	Intergovernmental Relations
Political Economy of the State	Provincial Government and Politics in Ontario
Research Methods for Public Policy and Administration	Comparative Public Policy
	Comparative Public Administration
	Urban Governance
	Citizen Oriented Governance & Globalization
	The Changing Boundaries of the Public Sector
	Diversity and Equity in the Public Service
	Financial Management, Evaluation & Accountability in the Public Sector
	Public Sector Union-Management Relations
	Topics in Public Policy & Administration
	Directed Studies

\* It is recognized that not all elective courses will be offered in a given academic year and that the current list may be expanded as enrolments increases, the program develops and new faculty or adjunct faculty become involved with the program.

As the program reaches a steady state, additional elective courses may be developed, and the potential for electives that may be of interest to students in several other graduate programs at Ryerson will be explored (i.e. public sector management; ethics and values in public service; administrative law; social policy; aboriginal governance, environmental policy; gender, public policy and public administration; foreign policy etc.). It is anticipated that students in the MPPA program will also be able to access elective courses from other graduate programs at Ryerson.

**Faculty Resources:**

The 16 faculty in the program will be drawn from the Department of Politics and School of Public Administration. All core faculty have significant research track records, and most have received funding for scholarly research from SSHRC, CIHR and other government and non-profit sector sources. Faculty members from other departments at the university have also expressed an interest in teaching and supervising graduate student research in the program. In addition, qualified adjunct faculty will be utilized as appropriate.

2. Report to Academic Council for February 3, 2004, for the joint graduate program in Communication and Culture:

For information, the School of Graduate Studies submits the following courses offered at York University for the joint graduate program in Communication and Culture, to be offered starting in 2004. These courses were approved by York University's Faculty of Graduate Studies on November 13, 2003. These courses are submitted for information purposes in order to have the courses listed on RISIS for the registration of Ryerson students in these courses. No Ryerson teaching faculty or department is affected by these changes.

COCU tba (Elective Course)

***Globalization: Markets, Citizenship and Identity***

Programs Affected: GCAC, GCAP, GCDC

Program Approval Date: November 15, 2002

York University Approval Date: November 13, 2003

SGS Council Approval Date: January 9, 2004

COCU tba (Elective Course)

***Public Affairs Media***

Programs Affected: GCAC, GCAP, GCDC

Program Approval Date: November 15, 2002

York University Approval Date: November 13, 2003

SGS Council Approval Date: January 9, 2004

COCU tba (Elective Course)

***Cultural Industries, Trade and the WTO***

Programs Affected: GCAC, GCAP, GCDC

Program Approval Date: November 15, 2002

York University Approval Date: November 13, 2003

SGS Council Approval Date: January 9, 2004

COCU tba (Elective Course)

***The Struggle for Creativity and Innovation on the Internet***

Programs Affected: GCAC, GCAP, GCDC

Program Approval Date: November 15, 2002

York University Approval Date: November 13, 2003

SGS Council Approval Date: January 9, 2004

Submitted by:

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Dr. Maurice Yeates

Chair

School of Graduate Studies Council

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## REPORT OF THE ACADEMIC STANDARDS COMMITTEE

Report #W2004–2; February 2004

In this report the Academic Standard Committee presents its evaluation and recommendations on two proposals submitted by the School of Computer Science.

1. Degree name change from *Bachelor of Science (Applied Computer Science)* to *Bachelor of Science (Computer Science)*.
2. Curriculum restructuring in the Computer Science program.

Further documentation on the items addressed in this and all other ASC reports is available for review through the Secretary of Academic Council.

### 1. Degree Name Change

In its January 2004 meeting the Academic Council was informed of the name change of the four-year undergraduate program offered by the School of Computer Science from *Applied Computer Science* to *Computer Science*. The proposed degree name change from *Bachelor of Science (Applied Computer Science)* to *Bachelor of Science (Computer Science)* is a reflection of the program name change. This degree name change will be applicable retroactively to all students who graduated from the program and completed the current curriculum.

#### Recommendation

Having satisfied itself of the academic merit of this proposal, the Academic Standards Committee recommends:

*That Academic Council approve the designation of Bachelor of Science (Computer Science) for students graduating from the Computer Science program.*

### 2. Curriculum Restructuring in Computer Science

The proposed curriculum restructuring in the Computer Science (CS) program offered by the School of Computer Science (SCS) is the result of extensive work by the Program Review Committee of the SCS. The committee developed the proposal in response to changes in the field of computer science as reflected in the report from the ACM/IEEE-CS Joint Task Force on Computing Curricula 2001. In formulating the new curriculum the committee took into consideration recommendations by the program advisory committee, results of student surveys and recommendations by the peer review team and by the ASC made in 2001 when the program underwent periodic program review. The proposed curriculum restructuring entails the introduction of new courses, modifications of the content of existing courses and



the repositioning of existing courses within the four-year program structure. A summary of the main changes and the rationale for introducing these changes is as follows.

- Increased number of compulsory computer science core courses. This change aims to strengthen the core computer science body of knowledge as defined by the CC2001 document, and to ensure that students will graduate from the program with a homogenous knowledge base.
- Restructuring of the first and second year courses. The workload in the current first and second year curricula has been very high, resulting in low retention rate. To address these issues, the new curriculum: (i) restructures mathematics courses, including the introduction of an additional discrete mathematics course, (ii) changes course hours, and (iii) redistributes the design and project components in the current second year courses for a more balanced workload.
- Communication skills, professional and ethical issues. One of the main goals of the proposed new curriculum has been to further improve the communication skills of program students and increase the coverage of professional and ethical issues. Towards these goals the new curriculum maintains the third semester course *CMN 300 Communication in the Computer Industry*, emphasises written lab and project report components as well as the oral presentation activities within all courses, and introduces a new compulsory course, *CPS 6ZZ Computer Security and Professional Issues*. This new course will cover the principles and techniques of computer security with an analysis of the social and professional issues that arise in the practice of computing.

Under the new curriculum, students will complete a total of 40 courses (with 144 total program hours) in the following categories: 24 computer science courses (16 compulsory and 8 elective<sup>1</sup>), 7 mathematics courses (6 compulsory and 1 elective), 1 physics course, 1 management course, 1 technical communications course and 6 liberal studies courses. The *Appendix* of this report presents the complete proposed curriculum.

## Implementation

The implementation of the new curriculum will commence in September 2004 and will be phased in over the next 4 years.

## ASC Evaluation and Comments

The ASC recognizes that the proposed new curriculum will strengthen the core computer science knowledge base, enhance the students' communication skills and introduce the students to professional and ethical issues relevant to their chosen profession. The ASC also supports the changes introduced to improve student retention in the program.

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<sup>1</sup> Within this elective group student can also select from a minimum of 1 to a maximum of 2 courses from an approved list of courses in Engineering, Business or Science.

The ASC recommends that the SCS enhance curriculum, career and academic advising in order to assist students in the selection of technical electives which match their career goals. This additional academic guidance would be most useful to students in the initial years of the program. This should help to improve student retention. The SCS should also consider adapting for its program students the academic policy on language competency recently approved for the engineering programs at Ryerson. This model provides language proficiency assessment supported by language courses and is aimed to strengthen the language and ultimately the communication skills of program students.

The ASC has concluded that the proposed restructuring will academically benefit students.

## Recommendation

Having satisfied itself of the academic merit of this proposal, the Academic Standards Committee recommends:

*That Academic Council approve the proposed curriculum restructuring in Computer Science.*

Respectfully submitted by

Errol Aspevig,  
for the 2003/2004 Academic Standards Committee

K. Alnwick (Registrar)	B. Murray (Philosophy)
Z. Fawaz (Aerospace)	K. Penny (Hospitality and Tourism Management)
K. Gates (Nursing)	D. Phelan (Library)
D. Glynn (Continuing Education)	D. Schulman (Secretary of Academic Council; ex-officio)
R. Keeble (Urban and Regional Planning)	D. Snyder (Image Arts)
C. Livett (student, Geographic Analysis)	R. Stagg (History)
L. McCarthy (Chemistry and Biology)	D. Sydor (Business Management)
A. Mitchell (Interior Design)	M. Zeytinoglu (Electrical and Computer Engineering)
H. Moreau (student, BusinessManagement)	

## APPENDIX

### COMPUTER SCIENCE: New Curriculum

The course numbers used in the presentation of the proposed Computer Science curriculum are provided for clarity, and currently have no official standing.

The hours listed for the technical elective courses are approximate and represent average values. About half of Computer Science and Mathematics electives are 3 hours, and half are 4 hours. The 3-hour courses are usually 3(lecture) + 0(lab) or 2+1, and the 4-hour courses are 4+0, 3+1, or 2+2. Therefore, the total program hours shown in the following tables for in the fifth–eighth semester are only approximate. Individual students may have heavier or lighter workloads depending on their course selections.

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#### First Semester

Course	Lec	Lab	Description
CPS 109	3	2	Computer Science I
PCS 110	3	1 <sup>2</sup>	Physics
MTH 110	3	1	Discrete Math I
MTH 207	3	1	Calculus I
LIB. 1	3	0	A Lower Level Liberal Studies elective from Group A <sup>3</sup>
Total:	15	5	

#### Second Semester

Course	Lec	Lab	Description
CPS 209	3	1	Computer Science II
CPS 393	3	1	Introduction to C & UNIX
MTH 210	3	1	Discrete math II
MTH 310	3	1	Calculus II
LIB 2	3	0	A Lower Level Liberal Studies Elective from Group A
Total:	15	4	

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<sup>2</sup> Two hours lab on alternating weeks.

<sup>3</sup> Table A on page 535 of the Ryerson Undergraduate Program Calendar 2003/2004.

### Third Semester

Course	Lec	Lab	Description
CPS 305	3	1	Intro to Data Structures & Algorithms
CPS 2XX	3	1 <sup>2</sup>	Computer Organization I
CPS 3XX	3	0	Object Oriented Programming & Design
MTH 108	3	1	Linear Algebra
CMN 300	3	0	Communication in the Computer Industry
<b>Total:</b>	<b>15</b>	<b>3</b>	

### Fourth Semester

Course	Lec	Lab	Description
CPS 405	3	1	Intro to Software Engineering
CPS 590	2	2	Intro to Operating Systems
CPS 310	3	2	Computer Organization II
MTH 304	3	1	Probability & Statistics I
MGT 200	3	0	Introduction to Business
<b>Total:</b>	<b>14</b>	<b>6</b>	

### Fifth Semester

Course	Lec	Lab	Description
CPS 706	3	0	Introduction to Data Communications
CPS 510	3	1	Database I
CPS 721	3	0	Artificial Intelligence I
OPT1	3	?	Optional Course #1 <sup>4</sup>
LIB 3	3	0	An Upper Level Liberal Studies Elective from Group B <sup>5</sup>
<b>Total:</b>	<b>15</b>	<b>1</b>	

### Sixth Semester

Course	Lec	Lab	Description
CPS 6XX	3	1	Theory of Parsing
CPS 6YY	3	0	Advanced Algorithms
OPT2	3	?	Optional Course #2
MTH_OPT	3	0	Math Optional Course – from the MATH table
LIB 4	3	0	An Upper Level Liberal Studies Elective from Group B
<b>Total:</b>	<b>15</b>	<b>2</b>	

<sup>4</sup> A course from Table I, pp. 132-33, Ryerson Full-Time Undergraduate Calendar, 2003/2004.

<sup>5</sup> Table B, p. 535, Ryerson Full-Time Undergraduate Calendar 2003/20034

Seventh Semester

Course	Lec	Lab	Description
OPT 3	3	0	Option
OPT 4	3	0	Option
OPT 5	3	0	Option
OPT 6	3	0	Option
LIB 5	3	0	An Upper Level Liberal Studies Elective from Group B
Total:	15+	?	

Eighth Semester

Course	Lec	Lab	Description
OPT 7	3	0	Option
OPT 8	3	0	Option
OPT 9	3	0	Option
OPT 10	3	0	Option
LIB 6	3	0	An Upper Level Liberal Studies Elective from Group B
Total:	15+	?	

## OPTIONS

A total of 11 option courses (10 technical electives in computer science plus 1 mathematics course) are required between 6<sup>th</sup> and 8<sup>th</sup> semester. Available option courses and their restrictions are described below.

- A minimum of 7 or a maximum of 9 courses must be selected from the COMPUTER SCIENCE table including CPS 506 and CPS 6ZZ.
- A minimum of 1 course or a maximum of 2 courses must be selected from the ENG/SCI/BUS table.
- A minimum of 1 of the option courses or a maximum of 3 courses must be selected from the MATH table.

Computer Science Group			
Course	Course Title	Lect	Lab
CPS 040	Thesis	0	3
CPS 506	Comparative Programming Lang.	3	0
CPS 511	Computer Graphics	2	1
CPS 520	Comp. Assisted Instruction & Learning	3	1
CPS 530	Component-Based Programming for Web	3	0
CPS 606	Advanced Computer Organization	3	0
CPS 607	Autonomous Mobile Robotics	3	0
CPS 610	Database Systems II	3	1
CPS 613	HCI & GUI Development	2	2
CPS 621	Introduction to Multimedia Systems	2	1
CPS 630	Web Applications	1	2
CPS 6ZZ	Computer Security	3	1
CPS 707	Software Verification & Validation	4	0
CPS 710	Translators I	2	1
CPS 711	Introduction to CAD/CAM	1	2
CPS 720	Artificial Intelligence II	3	0
CPS 731	Software Engineering I	2	2
CPS 750	Telecommunication Networks: Wireless Systems	3	0
CPS 801	Operating Systems	2	2
CPS 811	Distributed Systems & Networks	3	0
CPS 815	Advanced Analysis of Algorithms	3	1
CPS 820	Knowledge-Based Systems	3	0
CPS 831	Software Engineering II	2	2
CPS 840	Selected Topics in Computer Science	3	0
CPS 841	Advanced Topics in Computer Science	3	0
CPS 8XX	Info Retrieval & Web Search	3	1
CPS 8YY	Digital Image Computing	3	0
CPS 8ZZ	Data Mining	3	1
CPS 8UU	Extreme Programming, & Agile Processes	3	1

Mathematics Group <sup>1,2</sup>			
Course Number	Course Title	Lecture	Lab
MTH 401	Differential Equations	3	0
MTH 404	Probability and Statistics II	3	0
MTH 405	Formal Languages	3	0
MTH 501	Numerical Analysis I	4	0
MTH 503	Operations Research I	3	0
MTH 505	Calculus III	3	2
MTH 540	Geometry	3	1
MTH 601	Numerical Analysis II	4	0
MTH 603	Operations Research II	3	1
MTH 607	Graph Theory	3	1
MTH 609	Number Theory	3	1
MTH 640	Complex Analysis	3	1
MTH 710	Fourier Analysis	3	0
MTH 712	Differential Equations II	3	0
MTH 714	Logic and Computability	3	1
MTH 716	Design & Codes	3	1
MTH 814	Computational Complexity	3	1
MTH 816	Cryptography	3	1
MTH 8XX	Combinatorics	3	1

- <sup>1</sup> Students must take a minimum of 1 and a maximum of 3 courses from this group.  
<sup>2</sup> Students must take 1 course from this group in the semester 6<sup>th</sup> semester.

ENGINEERING / SCIENCE/ BUSINESS Group <sup>1</sup>			
Course Number	Course Title	Lec	Lab
PCS 510	Fundamentals of Astrophysics	3	0
PCS 224	Solid State Physics	3	0
ENT 500	New Venture Start-up	3	0
ANY	Courses from Engineering, Business or Science outside of the Department from the following list (or approved by the Chair):  EES 512 Electric Circuits GEO 624 Introduction to Remote Sensing ACC 100 Introductory Financial Accounting CHY 102 General Chemistry BLG 090 Biological Principles BLG 143 Biology I BRD 038 Communicating using New Media ECN 808 Economics of Technological Change MKT 100 Marketing I		

- <sup>1</sup> Student must take a minimum of 1 and a maximum of 2 courses from this group.